

Write your name here

Surname	Other names
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Centre Number	Candidate Number
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# Edexcel GCSE

## Methods in Mathematics

### Unit 2: Methods 2

### Foundation Tier

Practice Paper <b>Time: 1 hour 45 minutes</b>	Paper Reference <b>5MM2F/01</b>
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<b>You must have:</b> Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.	Total Marks
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### Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*
- **Calculators may be used.**
- If your calculator does not have a  $\pi$  button, take the value of  $\pi$  to be 3.142 unless the question instructs otherwise.



### Information

- The total mark for this paper is 100
- The marks for **each** question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (\*) are ones where the quality of your written communication will be assessed  
– *you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.*

### Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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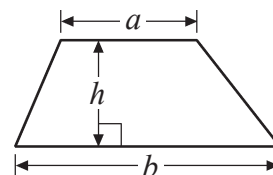
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## GCSE Mathematics 2MM01

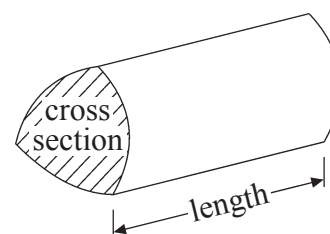
Formulae: Foundation Tier

**You must not write on this formulae page.  
Anything you write on this formulae page will gain NO credit.**

**Area of trapezium** =  $\frac{1}{2}(a + b)h$



**Volume of prism** = area of cross section  $\times$  length



**Answer ALL questions.**

**Write your answers in the spaces provided.**

**You must write down all stages in your working.**

- 1** Write these numbers in order of size.  
Start with the smallest number.

0.62   0.26   0.66   0.2   0.06

.....

**(Total for Question 1 is 1 mark)**

- 2** Work out

(a)  $9.1^2$

.....  
**(1)**

(b)  $-7 \times -9$

.....  
**(1)**

(c)  $40 - 12 \div 4$

.....  
**(1)**

(d)  $(34.1 - 8.7) \times 2.5$

.....  
**(2)**

**(Total for Question 2 is 5 marks)**



W 4 1 0 7 6 A 0 3 2 0

3 (a) Complete this sentence.

An octagon has ..... straight sides.

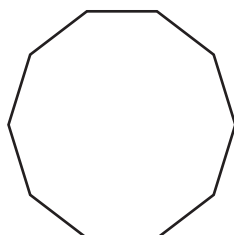
(1)

(b) Complete this sentence.

A regular hexagon has 6 ..... straight sides and 6 ..... angles.

(1)

The diagram shows a polygon.



(c) Write down the name of this polygon.

.....  
(1)

You can use this rule to work out the sum of the interior angles, in degrees, of a polygon.



(d) Work out the sum of the interior angles for a polygon with 7 sides.

.....  
(3)

The sum of the interior angles of another polygon is 1800

(e) How many sides does this polygon have?

.....  
(3)

(Total for Question 3 is 9 marks)



- 4 (a) Work out the difference between  $-15^{\circ}\text{C}$  and  $-31^{\circ}\text{C}$ .

..... $^{\circ}\text{C}$   
(1)

- (b) Work out the difference between  $-9^{\circ}\text{C}$  and  $5^{\circ}\text{C}$ .

..... $^{\circ}\text{C}$   
(1)

- (c) Find the temperature that is exactly half way between  $-11^{\circ}\text{C}$  and  $3^{\circ}\text{C}$ .

..... $^{\circ}\text{C}$   
(2)

(Total for Question 4 is 4 marks)

- 5 (a) Work out  $5 \times \sqrt{3}$   
Give your answer as a decimal.  
Write down all the figures from your calculator display.

.....  
(1)

- (b) Work out  $\frac{240}{15 \times 4}$

.....  
(2)

(Total for Question 5 is 3 marks)

- 6  $A = bc$

- (a) Work out the value of  $A$  when  $b = 4$  and  $c = 5$

.....  
(2)

$$P = 2a + 2b$$

- (b) Work out the value of  $P$  when  $a = 7$  and  $b = 12$

.....  
(2)

(Total for Question 6 is 4 marks)



- 7 Bag A contains  $x$  counters.  
Bag B contains 4 more counters than bag A.

Write down a formula for the total number of counters,  $T$ , in the two bags.

.....  
(Total for Question 7 is 3 marks)

- 8 (a) Rob thinks of a number.  
He subtracts 7 from his number.  
His answer is 5

What number did Rob first think of?

.....  
(1)

- (b) Ali thinks of a number.  
She multiplies her number by 3  
She then adds 5  
Her answer is 32

What number did Ali first think of?

.....  
(2)

(Total for Question 8 is 3 marks)



- 9 (a) Write 54% as a fraction.  
Give your fraction in its simplest form.

.....  
(2)

- (b) Write  $\frac{1}{10}$  as a decimal.

.....  
(1)

- (c) Work out  $\frac{1}{5}$  of 80

.....  
(1)

- (d) Work out 10% of 80

.....  
(1)

- \*(e) Which is bigger  $\frac{3}{4}$  or 0.8 or 77%?

Give a reason for your answer.

(3)

(Total for Question 9 is 8 marks)



W 4 1 0 7 6 A 0 7 2 0

10 (a) Here is a table for a two-stage number machine.

The machine divides by 2 and then adds 5



Complete the table.

Input	Output
2	6
8	9
12	.....
23	.....
.....	73

(3)

Here is another two-stage number machine.



When the input is 6 the output is 38.

(b) Complete the number machine.

(2)

(Total for Qusetion 10 is 5 marks)

11 Work out 25% of 600

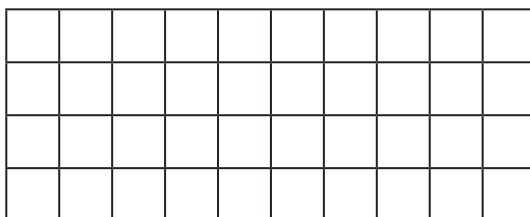
.....  
(Total for Question 11 is 2 marks)



- 12 (a) Write 8 out of 18 as a fraction.  
Write your fraction in its simplest form.

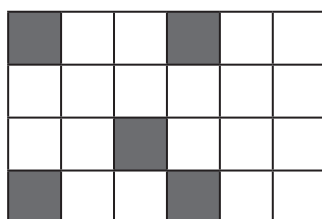
.....  
(2)

- (b) Shade  $\frac{2}{5}$  of this shape.



(2)

Here is another rectangle.



Some **more** squares are shaded so that the

the number of shaded squares : the number of unshaded squares = 3 : 5

- (c) How many more squares are shaded?

.....  
(2)

(Total for Question 12 is 6 marks)



W 4 1 0 7 6 A 0 9 2 0

13 Here is a cuboid.

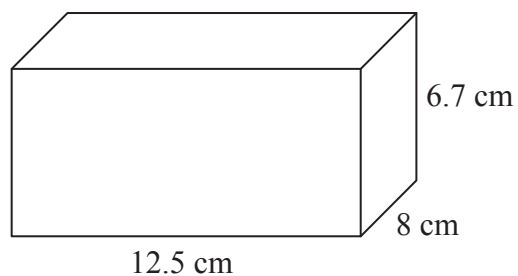
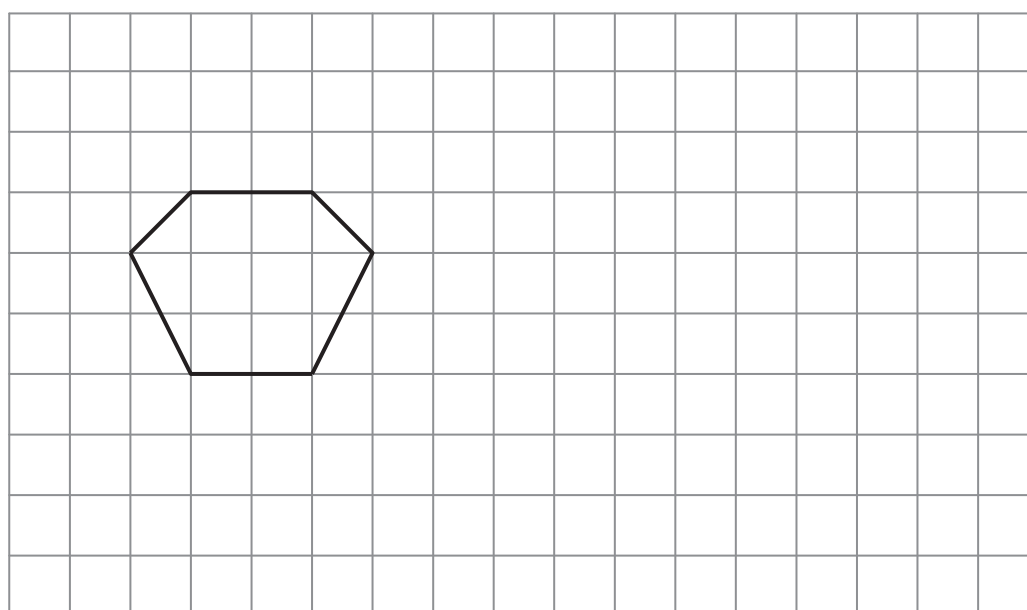


Diagram **NOT**  
accurately drawn

Work out the volume of the cuboid.

(Total for Question 13 is 3 marks)

14 On the grid, show how the shape tessellates.  
You must draw at least 6 shapes.



(Total for Question 14 is 2 marks)



\*15

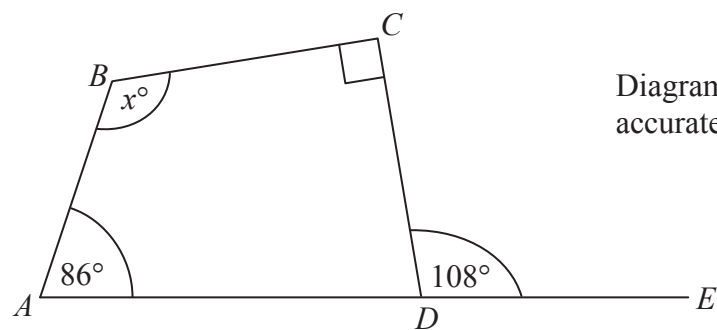


Diagram **NOT**  
accurately drawn

$ABCD$  is a quadrilateral.  
 $ADE$  is a straight line.

Work out the value of  $x$ .  
Give reasons for your answer.

(Total for Question 15 is 4 marks)

16 The two rectangles are mathematically similar.

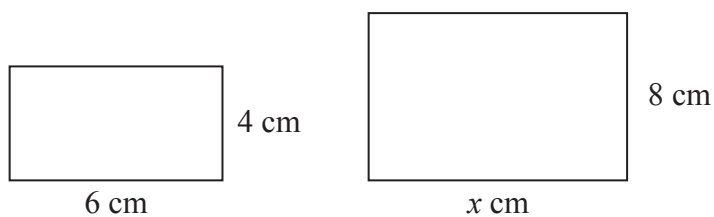


Diagram **NOT**  
accurately drawn

Work out the value of  $x$ .

$x = \dots\dots\dots$

(Total for Question 16 is 2 marks)



**\*17** A bag contains some counters.

5% of the counters are blue.

$\frac{5}{8}$  of the counters are red.

$\frac{1}{5}$  of the counters are yellow.

The rest of the counters are green.

What percentage of the counters in the bag are green?

..... %

**(Total for Question 17 is 4 marks)**

**18** 5 kg of apples costs £4.30

Work out the cost of 7 kg of these apples.

£ .....

**(Total for Question 18 is 2 marks)**



\*19

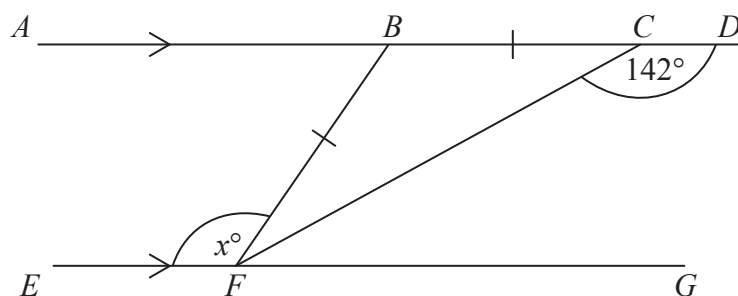


Diagram **NOT**  
accurately drawn

$AD$  is parallel to  $EG$ .

$BC = BF$ .

Angle  $FCD = 142^\circ$ .

Work out the size of the angle marked  $x^\circ$ .

Give reasons for your answer.

$x = \dots\dots\dots^\circ$

(Total for Question 19 is 4 marks)



20 Here is a solid triangular prism.

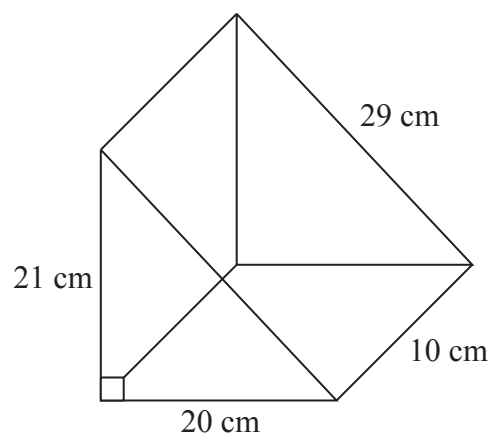


Diagram **NOT**  
accurately drawn

Work out the total surface area of the prism.

..... cm<sup>2</sup>

(Total for Question 20 is 4 marks)

21 Divide £200 in the ratio 3 : 5

.....

(Total for Question 21 is 3 marks)



22 (a) Increase £820 by 35%

£ .....  
(3)

(b) Write 56 as a percentage of 64

..... %  
(2)

(Total for Question 22 is 5 marks)

23  $W = 3x^2 - 5x$   
 $x = -8$

(a) Work out the value of  $W$ .

$W =$  .....  
(2)

(b) Make  $c$  the subject of the formula  $f = 3c - t$

.....  
(2)

(Total for Question 23 is 4 marks)



- 24 The diagram shows a rectangle with a circle cut out.

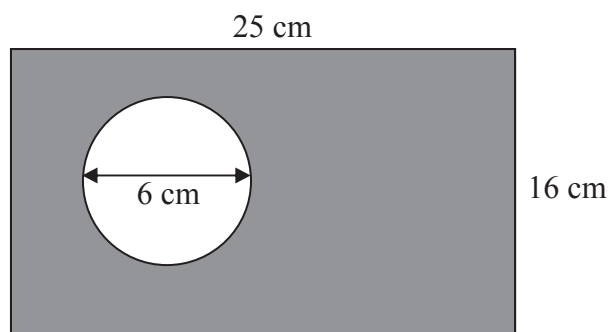


Diagram **NOT**  
accurately drawn

The rectangle has length 25 cm and width 16 cm.  
The circle has diameter 6 cm.

Work out the shaded area.  
Give your answer correct to 3 significant figures.

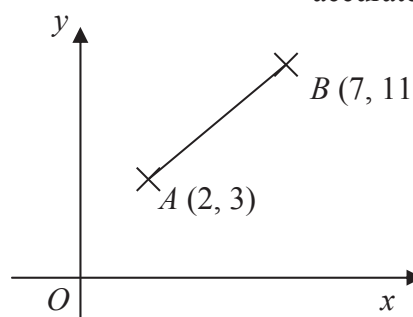
..... cm<sup>2</sup>

(Total for Question 24 is 4 marks)

- 25  $A$  is the point (2, 3).  
 $B$  is the point (7, 11).

Work out the length  $AB$ .  
Give your answer correct to 3 significant figures.

Diagram **NOT**  
accurately drawn



.....

(Total for Question 25 is 3 marks)



26 The diagram shows a rectangle.

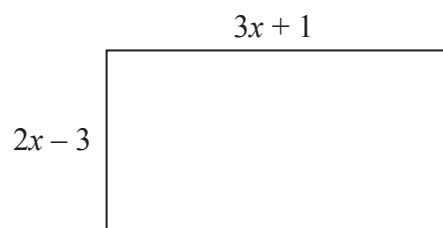


Diagram **NOT**  
accurately drawn

All measurements on the diagram are in centimetres.

The perimeter of the rectangle is less than 55 cm.

(a) Show that  $10x - 4 < 55$

(3)

$x$  is an integer.

(b) Find the greatest possible value of  $x$ .

.....  
(3)

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(Total for Question 26 is 6 marks)

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TOTAL FOR PAPER IS 100 MARKS



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